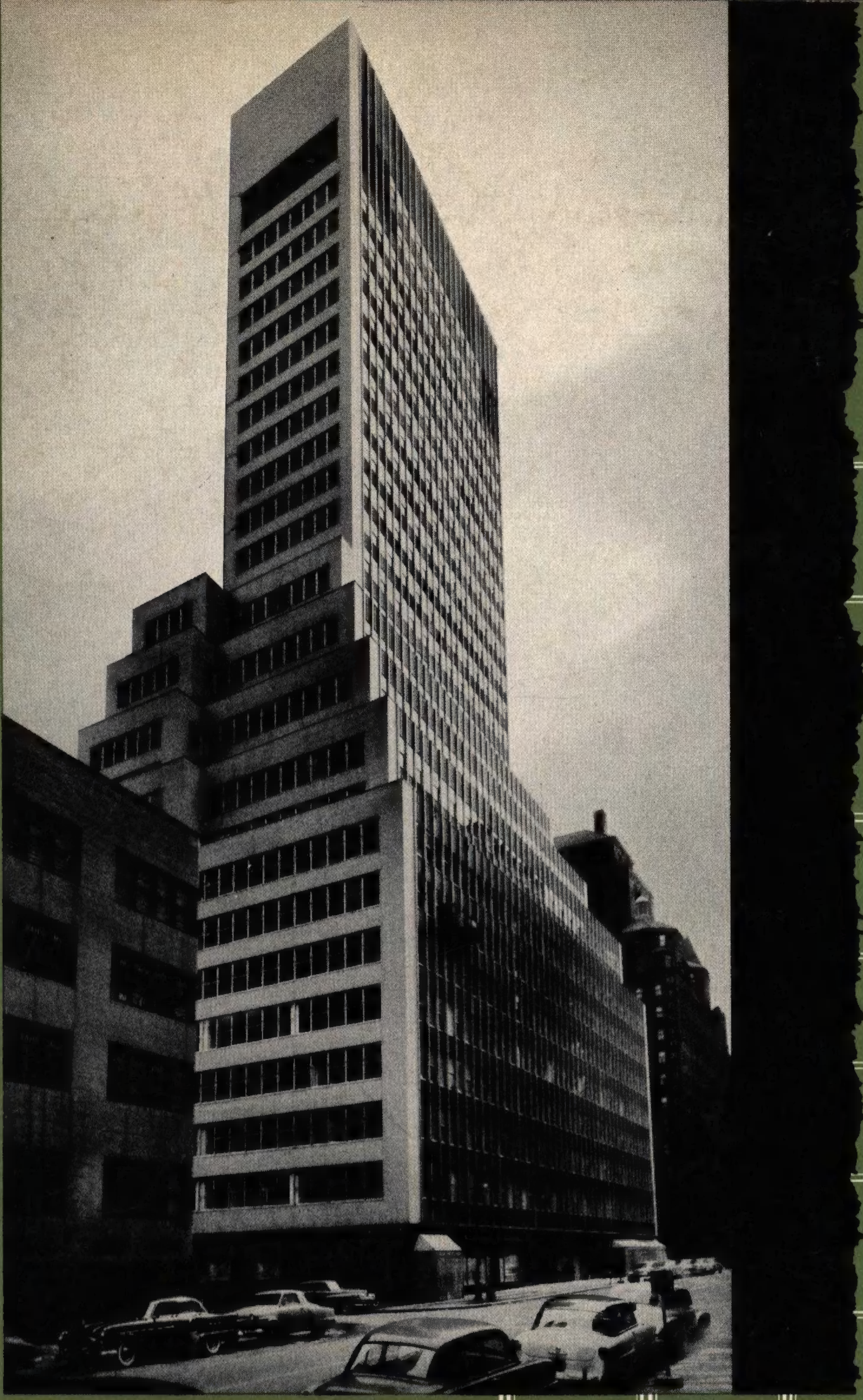
A.I.A. FILE NO. 17-A • 1954

261 MADISON AVENUE
wall system

ALCOA SERIES 100-6

architectural achievements



261 Madison Avenue

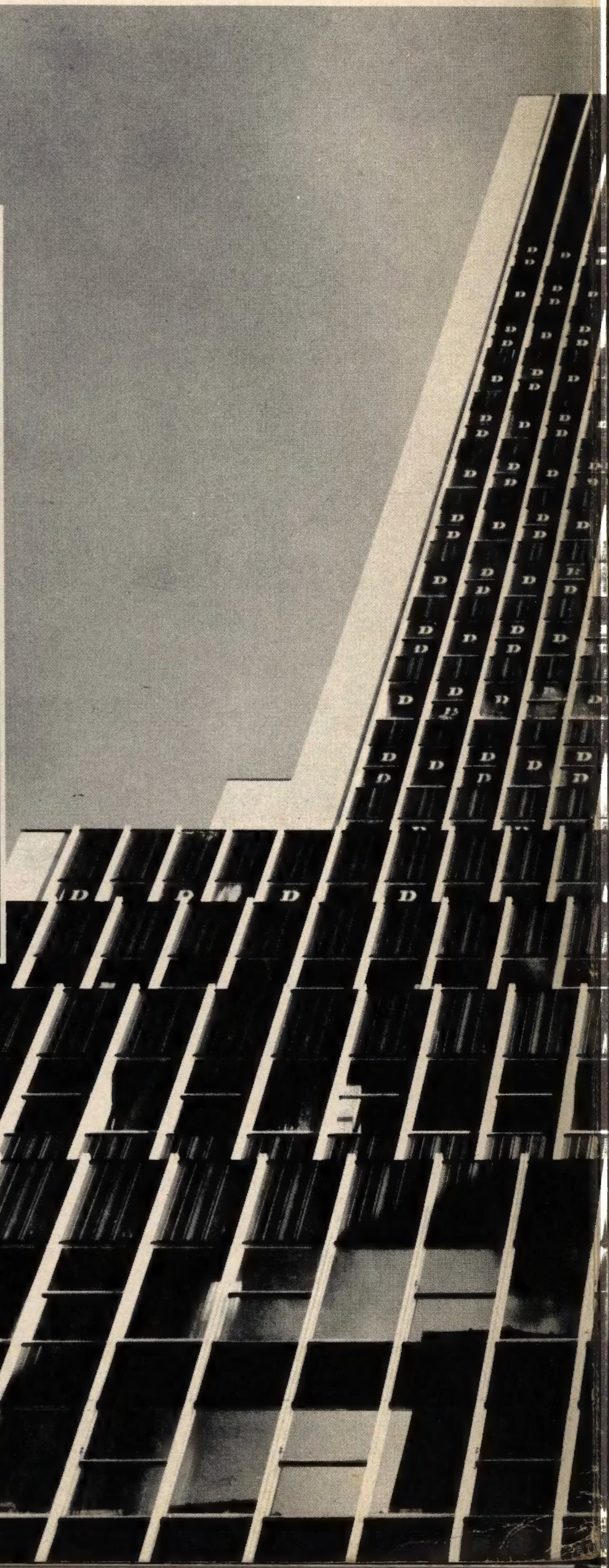
NEW YORK, NEW YORK

OWNER: *260 Madison Avenue Corporation • New York, N.Y.*
ARCHITECT: *Sylvan Bien • New York, N.Y.*
CONTRACTOR: *Diesel Construction Company, Inc. • New York, N.Y.*
SUB CONTRACTOR-Aluminum: *General Bronze Corporation • Garden City, L.I., N.Y.*

a changing aluminum skyline

Manhattan's ever-changing skyline is finding Alcoa Aluminum a frequent solution to its need for modern architectural materials which can *decrease* over-all construction costs, *increase* building income and look attractive. The 261 Madison Avenue Building is such an example.

According to architect, Sylvan Bien, the saving in steel for the framework and reduction of erection costs effected by the use of Alcoa Extruded Aluminum Shapes resulted in a *lower cubic foot cost* than with the use of masonry facing. A 4″ block backup used with the aluminum exterior provided substantial added rentable space. Architects, real estate owners, contractors and the public alike have been quick to acclaim 261 Madison as a most impressive addition to the New York scene.



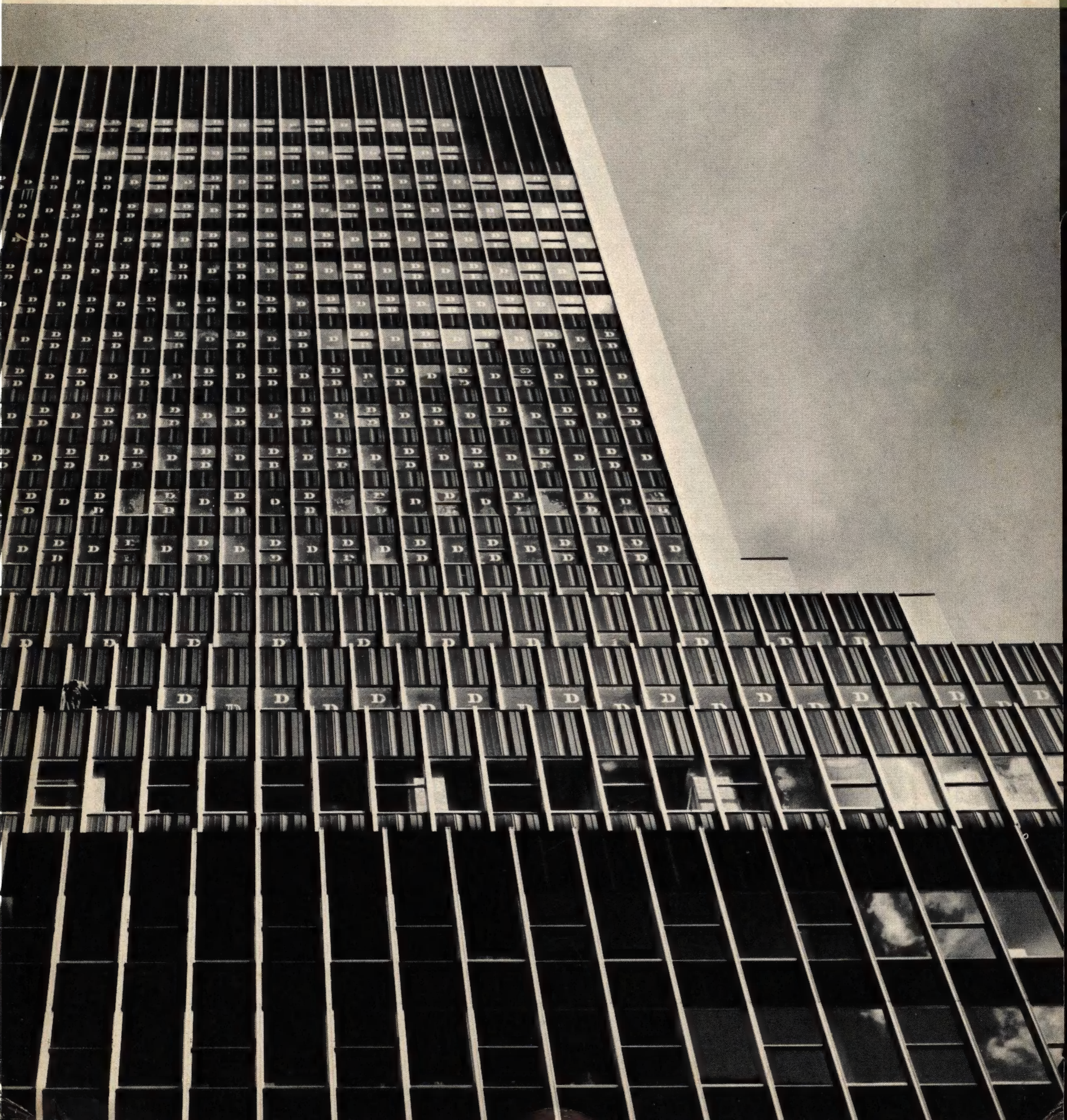
261 Madison Ave. ▶

◀ 260 Madison Ave.

Both buildings are faced with spandrel panels of Alcoa Aluminum, and both were designed by Sylvan Bien.

The wall system at 261 Madison Avenue is identical in appearance to that on its prototype at 260 Madison. Owner of both buildings, the 260 Madison Avenue Corporation, was so satisfied with the use of Alcoa Aluminum spandrel panels on "260" that it requested Architect Bien to repeat the design for "261."

A considerable source of saving was the efficiency of panel fabrication and erection. Erection crews rapidly installed the walls because of easy-to-handle preassembled panels and the simplicity of the fastening system. Aluminum mullion channels and covers, 11′2″ long, went into place first and were attached to clips set into the spandrel beams (one clip per floor). Mullion rigidity and weather-tightness were provided by horizontal interlocking joints. Spandrel panels preassembled from extruded sections were then bolted to angles fastened to the mullions. After all mullions and panels were installed, window frames were inserted and glazed and the exterior wall was complete. A quick, efficient and relatively inexpensive way to cover a building.



261 MADISON AVENUE WALL STATISTICS

HEAT TRANSMISSION OF WALL	WEIGHT OF WALL
U = .27 BTU-HR-SQ FT -°F	38.4 LBS PER SQ FT

Statistics for 4″ BRICK—8″ HOLLOW TILE—½″ PLASTER Wall
Heat Transmission: U = .32 BTU-Hr-Sq Ft-°F
Weight: 80 lbs per sq ft

ADVANTAGES OF ALCOA ALUMINUM WALL SYSTEMS

design and construction advantages

A. LIGHT WEIGHT permits use of:
   1. Smaller foundations, lighter structural steel framework.
   2. Larger and fewer wall facing units.
   3. Preassembly methods in shop.
   4. Low transportation load to construction site with less freight charge.

B. WEATHERABILITY resists corrosion.

C. HIGH RADIANT HEAT REFLECTIVITY of natural color aluminum means:
   1. Greater interior heat retention in winter.
   2. Better exterior heat resistance in summer.

D. DESIGN VERSATILITY offers an almost unlimited variety of architectural effects through cast, extruded, sheet shapes with wide range of colored and textural finishes.

E. WORKABILITY permits speedy fabrication with less equipment and lower fabrication investment.

F. THIN WALL CONSTRUCTION can increase rental income by providing more usable square feet of floor area. Thus:

I = *Additional yearly rental income (dollars)*
A = *Unit area added to net rentable floor area by thin wall construction (sq ft)*
P = *Perimeter of each floor (lin ft)*
N = *Number of floors (units)*
R = *Rental Rate (dollars per sq ft per year)*

Hypothetical Example—$P = 400$ ft perimeter; $N = 30$ floors; $A = .33$ sq ft; $R = \$5.00$

$I = (A)\ .33 \times (P)\ 400 \times (N)\ 30 \times (R)\ \$5.00 = \$19,800.00$ *Additional rental income.*

erection advantages

A. LARGER AND FEWER WALL FACING UNITS permit:
   1. Efficient handling.
   2. Fewer joints.

B. INSIDE INSTALLATION of wall system eliminates scaffolding.

C. PANEL STORAGE ON FLOORS or roof reduces need of ground storage space.

D. EASE AND SPEED OF WALL ERECTION (when anchoring and alignment devices are properly detailed).
   1. Reduces labor cost.
   2. Brings earlier occupancy and rental return for owner (several months can sometimes be cut from the construction time needed for traditional wall materials).

maintenance advantages

A. PERMANENT FINISH eliminates painting.

B. FEWER JOINTS provide greater weather tightness and reduce wall deterioration.

C. SPECIAL JOINT DESIGN eliminates need for caulking.

D. CLEANING of wall areas is done by rainfall.

All of which contribute to lower maintenance costs.

AD 356 A 454.10

ALCOA SALES OFFICES

ABERDEEN, S. D.	304 Western Union Building
AKRON 8, OHIO	506 Akron Savings & Loan Building
ALBANY 7, N. Y.	90 State Street
ALLENTOWN, PA.	1132 Hamilton Street
ATLANTA 3, GA.	1800 Rhodes-Haverty Building
BALTIMORE 1, MD.	400 Baltimore Life Building
BIRMINGHAM 3, ALA.	505 First National Building
BOSTON 16, MASS.	20 Providence Street, Park Square
BRIDGEPORT 4, CONN.	Atlantic Street
BUFFALO 7, N. Y.	1880 Elmwood Avenue
CHARLOTTE 2, N. C.	616 Johnston Building
CHATTANOOGA 1, TENN.	1205 Volunteer Building
CHICAGO 11, ILL.	520 North Michigan Avenue
CINCINNATI 2, OHIO	801 Enquirer Building
CLEVELAND 13, OHIO	1450 Terminal Tower
COLUMBUS 15, OHIO	40 South Third Street Building
DALLAS 2, TEXAS	301 Thomas Building
DAVENPORT, IOWA	503 Kahl Building
DAYTON 5, OHIO	207 Northtown Arcade
DENVER 18, COLO.	1112 East 18th Avenue
DES MOINES, IOWA	410 Walnut Building
DETROIT 2, MICH.	610 New Center Building
EVANSVILLE 10, IND.	207 Kinkel Building
FORT WAYNE, IND.	930 Lincoln Bank Tower
GRAND RAPIDS 2, MICH.	812 Michigan National Bank Building
HARTFORD 3, CONN.	Capitol Building, 410 Asylum Street
HOUSTON 2, TEXAS	1804 Commerce Building
INDIANAPOLIS 4, IND.	303 Guaranty Building
JACKSON, MICH.	1405 National Bank Building
KANSAS CITY 5, MO.	2300 Power & Light Building
LOS ANGELES 17, CALIF.	1145 Wilshire Blvd.
LOUISVILLE 2, KY.	1152 Starks Building
MEMPHIS 3, TENN.	2802 Sterick Building
MIAMI 32, FLA.	1605 Alfred I. du Pont Building
MILWAUKEE 2, WIS.	735 North Water Street
MINNEAPOLIS 2, MINN.	1060 Northwestern Bank Building
NEWARK 2, N. J.	744 Broad Street
NEW ORLEANS 12, LA.	627 Whitney Building
NEW YORK 17, N. Y.	230 Park Avenue
OKLAHOMA CITY 2, OKLA.	111 N.W. 23rd Street
OMAHA 2, NEB.	708 Omaha National Bank Building
PEORIA 1, ILL.	725 Commercial Bank Building
PHILADELPHIA 9, PA.	123 S. Broad Street
PITTSBURGH 19, PA.	1501 Alcoa Building
PONTIAC 15, MICH.	301 Pontiac State Bank Building
PORTLAND 4, ORE.	1115 U.S. National Bank Building
PROVIDENCE 3, R. I.	815 Industrial Trust Building
RICHMOND 19, VA.	712 Southern States Building
ROCHESTER 4, N. Y.	1331 Lincoln Alliance Bank Building
ST. LOUIS 8, MO.	10th Floor, Continental Building
SAN FRANCISCO 4, CALIF.	615 Russ Building
SEATTLE 1, WASH.	1411 Fourth Avenue Building
SOUTH BEND 1, IND.	805 J.M.S. Building
SPRINGFIELD 3, MASS.	232 Tarbell-Watters Building
SYRACUSE 2, N. Y.	1018 State Tower Building
TAMPA 2, FLA.	227 First National Building
TOLEDO 4, OHIO	1801 Ohio Building
WASHINGTON 6, D. C.	1200 Ring Building
WICHITA 2, KAN.	1011 Central Building
WILMINGTON 1, DEL.	301 Delaware Trust Building
WORCESTER 8, MASS.	22 Pleasant Street
YORK, PA.	205 Manufacturers Building

ALCOA ALUMINUM

ALUMINUM COMPANY OF AMERICA
1894 Alcoa Building · Pittsburgh 19, Pa.

PRINTED IN U.S.A.

architectural achievements

ALCOA SERIES 100-6

ALUMINUM WORK—261 MADISON AVENUE, NEW YORK, N. Y.

ARCHITECT	SYLVAN BIEN
GENERAL CONTRACTOR	DIESEL CONSTRUCTION COMPANY
SUB-CONTRACTOR—Aluminum	GENERAL BRONZE CORPORATION

Suggested Outline Specifications

To facilitate bidding and accurate quoting it is recommended that the aluminum components, including anchorage and accessories, be treated under a separate specification division and not combined with miscellaneous metalwork or any other division of work.

1. GENERAL CONDITIONS

A. The General Conditions of the contract for the construction of buildings, standard form of the American Institute of Architects and the supplementary General Conditions are part of this contract.

2. SCOPE

A. Furnish labor, material and other services to complete the fabrication and installation of aluminum wall and accessory system as indicated on the drawings. Erection shall be performed by the manufacturer or his authorized erector.

3. MATERIALS

A. Aluminum materials shall be composed of Alcoa aluminum alloys.

4. ALUMINUM WALL SYSTEM

A. Spandrel panel assembly components shall be shop assembled. Spandrel panels, panel heads and sills shall be 43S alloy extruded shapes.

B. Mullions and copings shall be 63S alloy extruded shapes.

C. Windows—63S alloy extruded shapes.

D. Coping—3S alloy sheet.

E. Knee anchors, anchor straps—steel, galvanized after fabrication.

F. Unexposed fasteners—24S alloy aluminum or galvanized steel.

G. Finish:

1. Spandrel panels, panel heads and sills—Alumilite 215R1 on 43S alloy to produce gunmetal color. Components shall fall within color range determined by submission and approval of samples. Minimum oxide coating thickness of .0008″ to be insured by testing random samples during processing.
2. Mullions and coping—Alumilite 204R1 on 63S alloy to produce natural color in accordance with manufacturer's standard as approved by the architect from samples submitted.
3. Window surfaces shall have natural color as fabricated. Windows shall have General Bronze Corp. standard rub finish.
4. Panel surfaces shall be protected against stain during construction by two coats of an approved water white, methacrylate type lacquer having a minimum thickness of .0006″ total for the two coats.

ALCOA
ALUMINUM
ALUMINUM COMPANY OF AMERICA

100 - 6

1 OF 1

1 - 21 - 54

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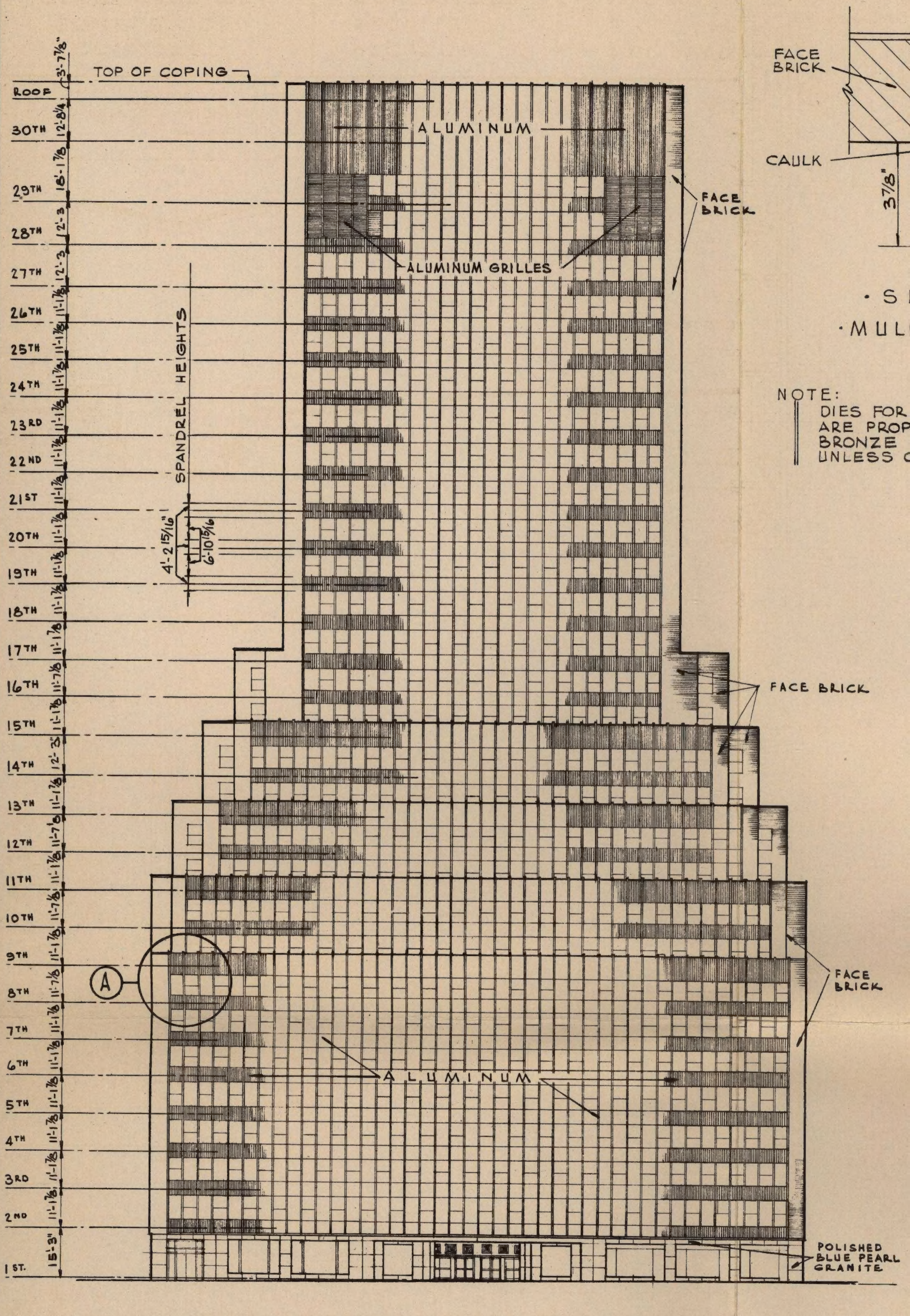

· S

·MUL

NOTE:
DIES FOR
ARE PROP
BRONZE
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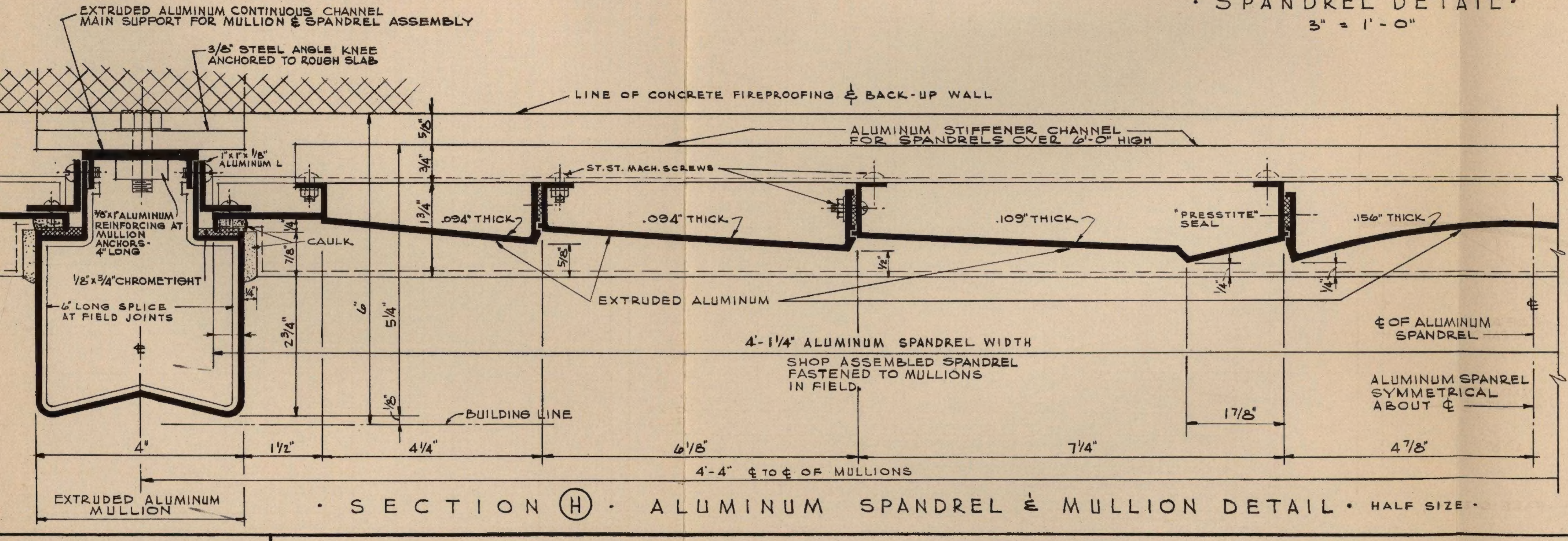
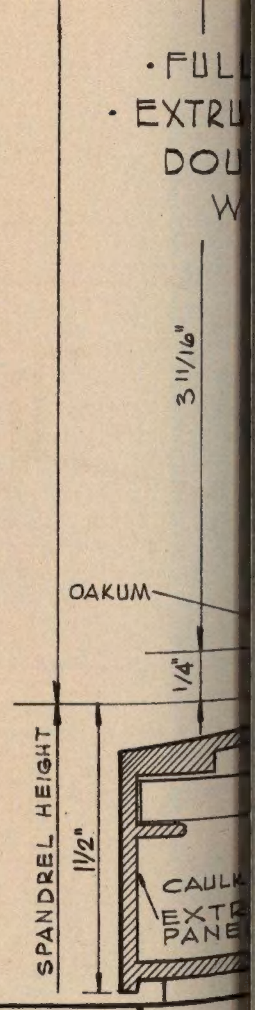
· MADISON AVENUE ELEVATION ·

1/32" = 1'- 0"

· SPANDREL DETAIL ·
3" = 1'-0"


EXTRUDED ALUMINUM CONTINUOUS CHANNEL MAIN SUPPORT FOR MULLION & SPANDREL ASSEMBLY
3/8" STEEL ANGLE KNEE ANCHORED TO ROUGH SLAB
LINE OF CONCRETE FIREPROOFING & BACK-UP WALL
ALUMINUM STIFFENER CHANNEL FOR SPANDRELS OVER 6'-0" HIGH
1"x1"x1/8" ALUMINUM L
ST. ST. MACH. SCREWS
3/8"x1" ALUMINUM REINFORCING AT MULLION ANCHORS - 4" LONG
CAULK
1/8"x3/4" CHROMETIGHT
6" LONG SPLICE AT FIELD JOINTS
.094" THICK
.094" THICK
.109" THICK
"PRESSTITE" SEAL
.156" THICK
EXTRUDED ALUMINUM
¢ OF ALUMINUM SPANDREL
4'-1 1/4" ALUMINUM SPANDREL WIDTH
SHOP ASSEMBLED SPANDREL FASTENED TO MULLIONS IN FIELD.
ALUMINUM SPANREL SYMMETRICAL ABOUT ¢
BUILDING LINE
5/8"
3/4"
1 3/4"
1/4"
7/8"
1/4"
2 3/4"
6"
5 1/4"
5/8"
1/2"
1/4"
1/4"
1/8"
1 7/8"
4"
1 1/2"
4 1/4"
6 1/8"
7 1/4"
4 7/8"
4'-4" ¢ TO ¢ OF MULLIONS
EXTRUDED ALUMINUM MULLION

· SECTION (H) · ALUMINUM SPANDREL & MULLION DETAIL · HALF SIZE ·



ESTIMATED
COMPLETION
SEPTEMBER 1954·

PROJECT 261 MADISON AVENUE NEW YORK CITY, N.Y.
ARCHITECT SYLVAN BIEN NEW YORK CITY, N.Y.
CONTRACTOR DIESEL CONSTRUCTION CO., INC. NEW YORK CITY, N.Y.
SUB-CONTRACTOR ALUMINUM — GENERAL BRONZE CORPORATION GARDEN CITY, L.I., N.Y.

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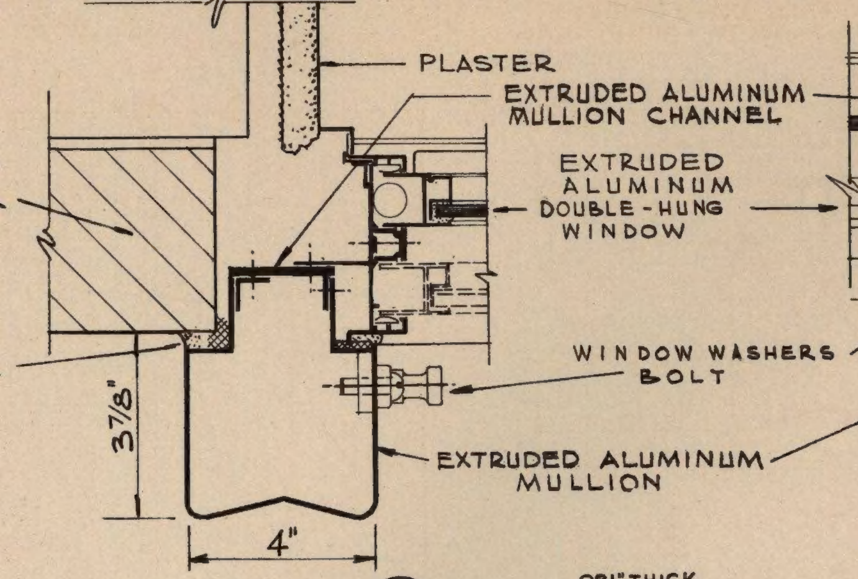
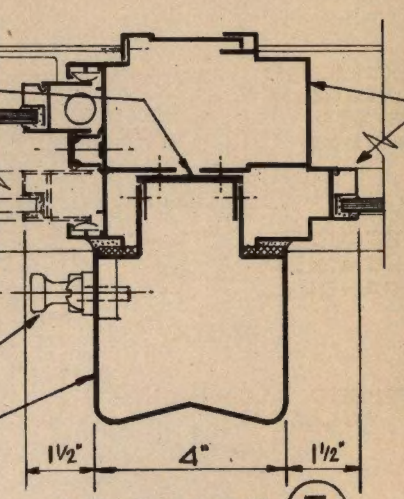
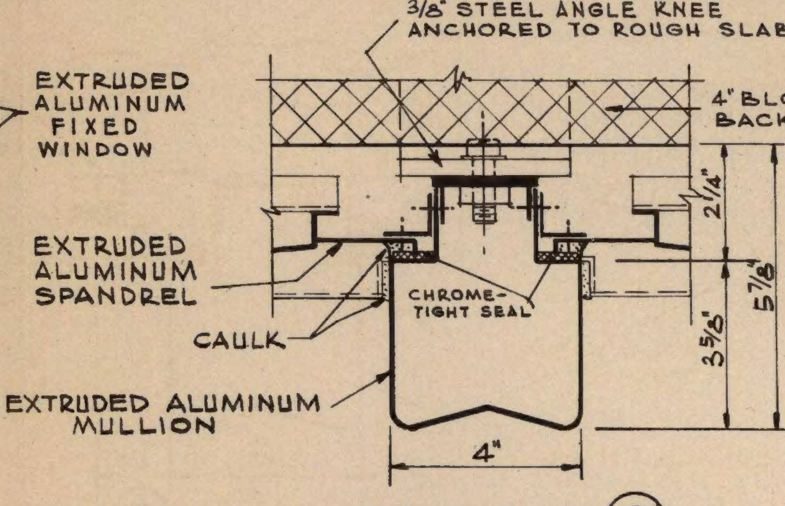

PLASTER
EXTRUDED ALUMINUM MULLION CHANNEL
EXTRUDED ALUMINUM DOUBLE-HUNG WINDOW
WINDOW WASHERS BOLT
EXTRUDED ALUMINUM MULLION
3⅞"
4"

· SECTION Ⓔ ·
· MULLION DETAIL ·
3" = 1'-0"



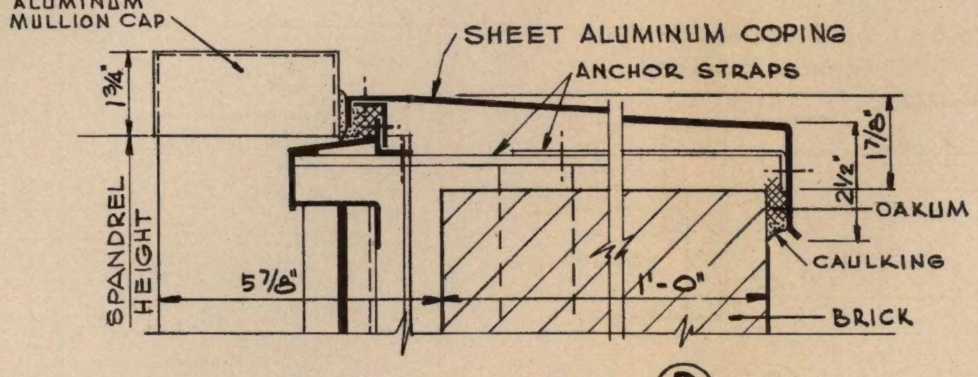
· SECTION Ⓕ ·

3" = 1'-0"

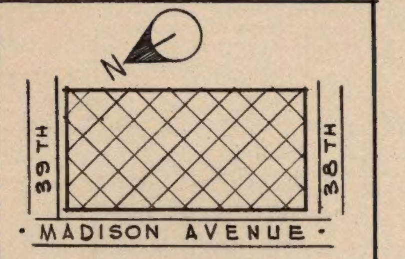

3/8" STEEL ANGLE KNEE ANCHORED TO ROUGH SLAB
4" BL
BACK
2¼"
5⅞"
3⅝"
EXTRUDED ALUMINUM SPANDREL
CHROME-TIGHT SEAL
CAULK
EXTRUDED ALUMINUM MULLION
4"

· SECTION Ⓖ ·

· MULLION DETAILS ·

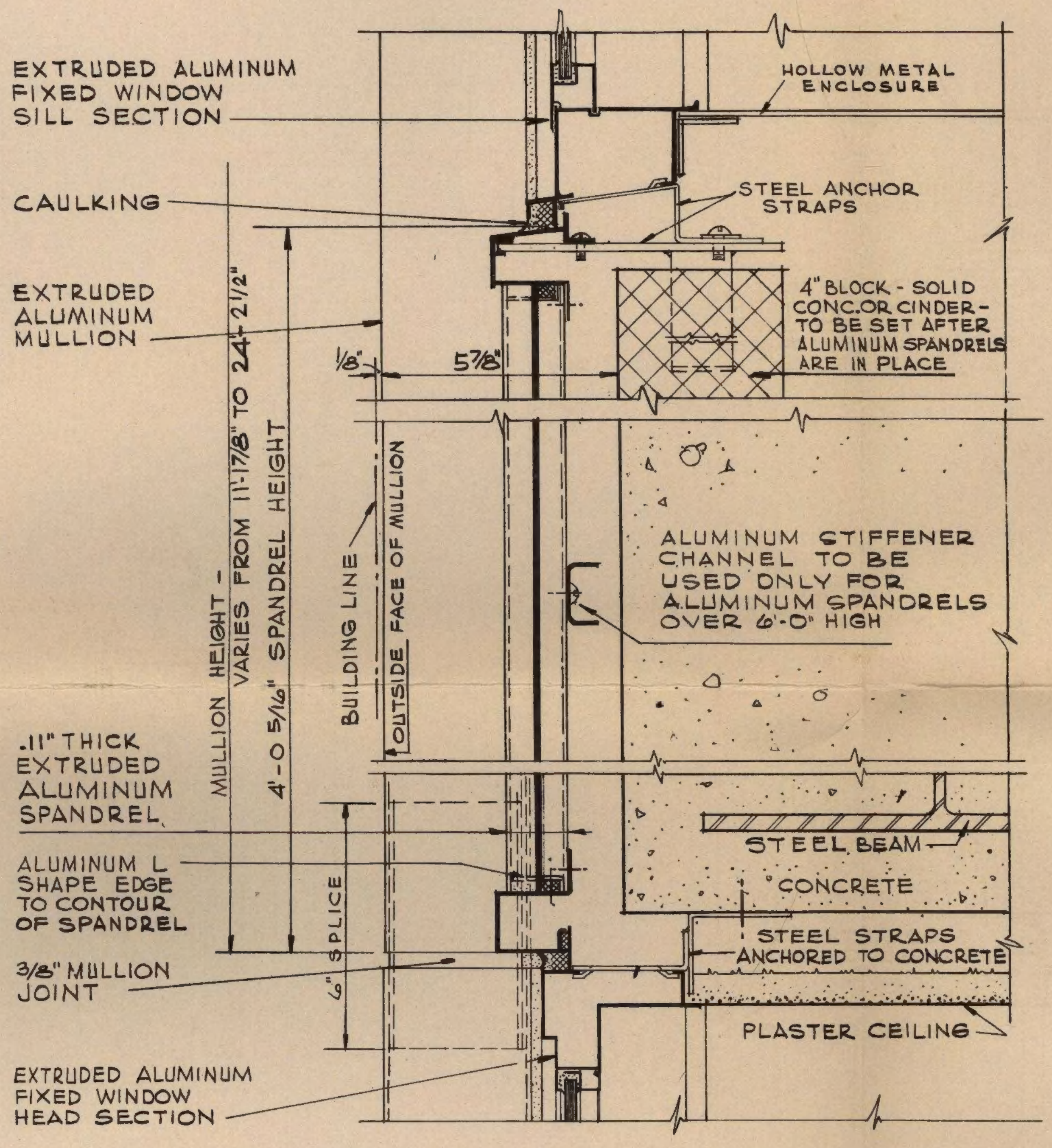


· SECTION Ⓓ ·
· COPING DETAIL ·
3" = 1'-0"

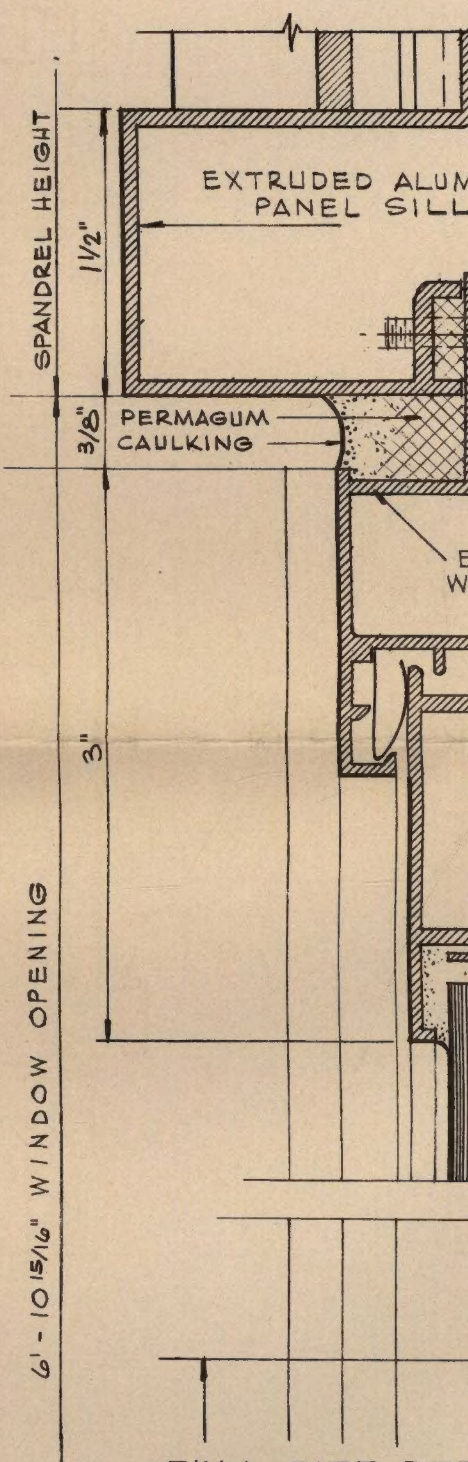


· PLAN ·
1/8" = 20'-0"

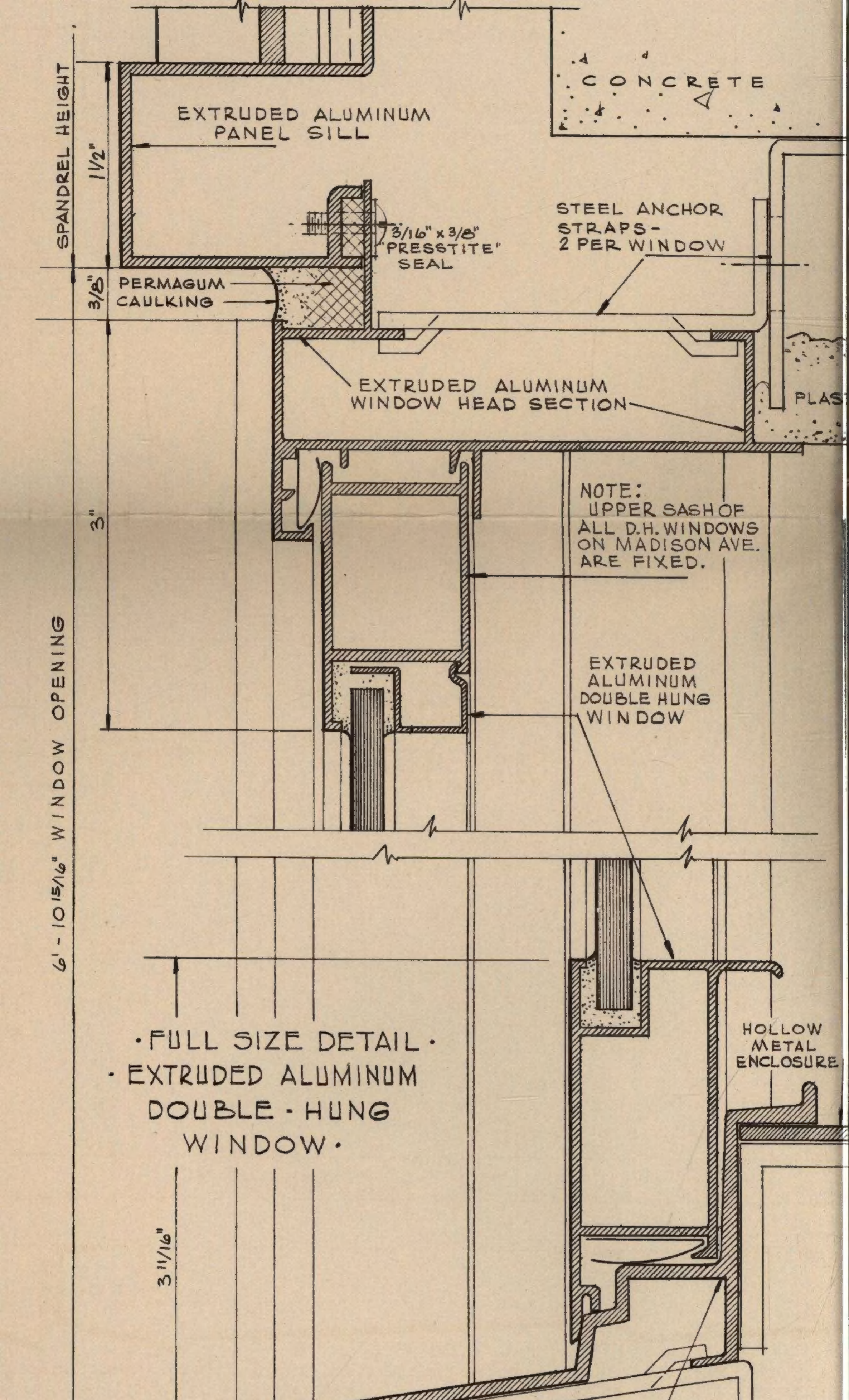
E:
DIES FOR EXTRUDED SHAPES
ARE PROPERTY OF GENERAL
BRONZE CORPORATION —
UNLESS OTHERWISE NOTED.


EXTRUDED ALUMINUM FIXED WINDOW SILL SECTION
HOLLOW METAL ENCLOSURE
CAULKING
STEEL ANCHOR STRAPS
EXTRUDED ALUMINUM MULLION
4" BLOCK - SOLID CONC. OR CINDER - TO BE SET AFTER ALUMINUM SPANDRELS ARE IN PLACE
1/8"
5⅞"
MULLION HEIGHT - VARIES FROM 11'-1⅞" TO 24'-2½"
4'-0 5/16" SPANDREL HEIGHT
BUILDING LINE
OUTSIDE FACE OF MULLION
ALUMINUM STIFFENER CHANNEL TO BE USED ONLY FOR ALUMINUM SPANDRELS OVER 6'-0" HIGH
.11" THICK EXTRUDED ALUMINUM SPANDREL
STEEL BEAM
CONCRETE
ALUMINUM L SHAPE EDGE TO CONTOUR OF SPANDREL
6" SPLICE
STEEL STRAPS ANCHORED TO CONCRETE
3/8" MULLION JOINT
PLASTER CEILING
EXTRUDED ALUMINUM FIXED WINDOW HEAD SECTION

· SECTION Ⓒ ·
· SPANDREL DETAIL ·
3" = 1'-0"

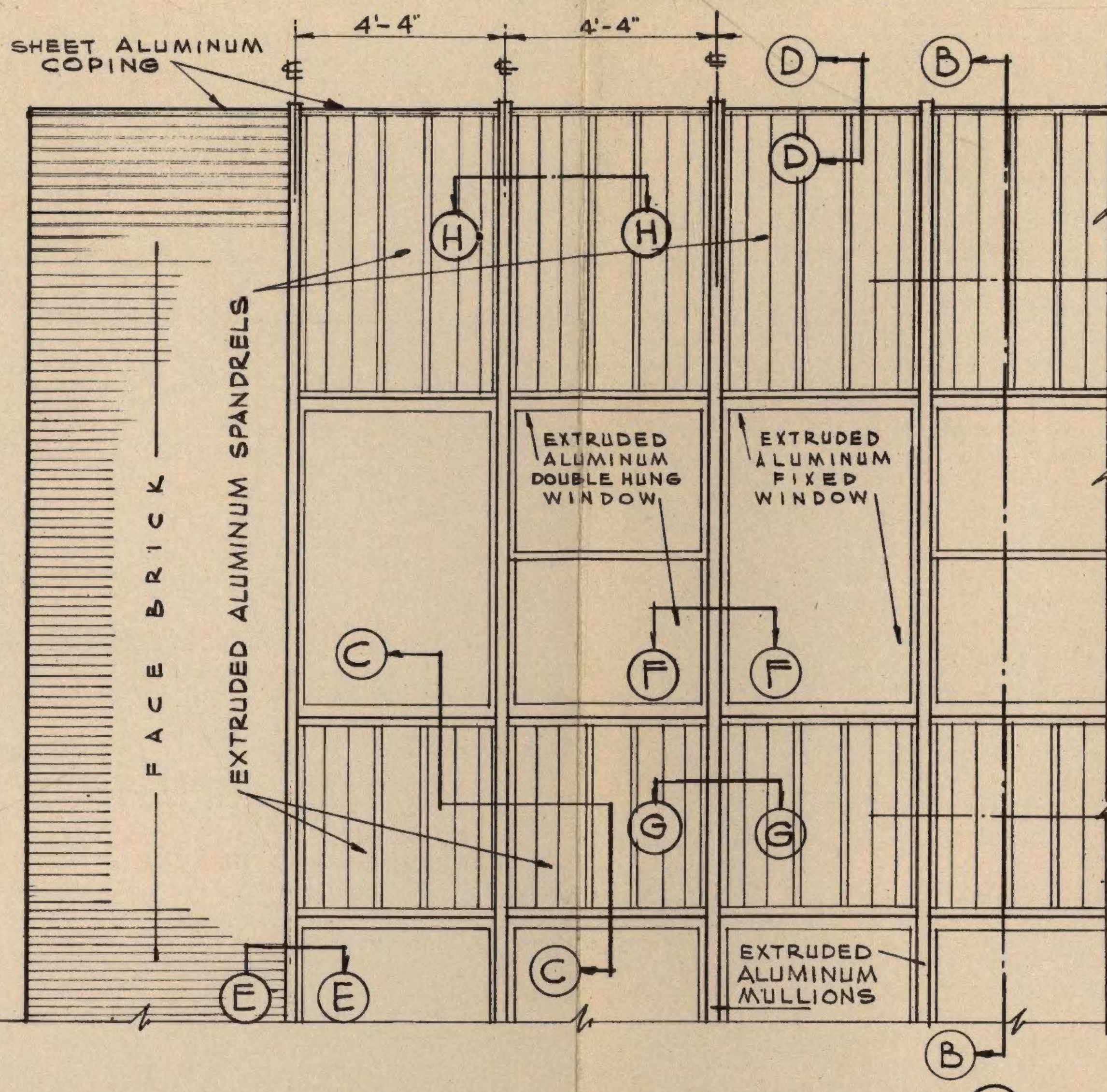


· FULL SIZE DET
· EXTRUDED ALUMI

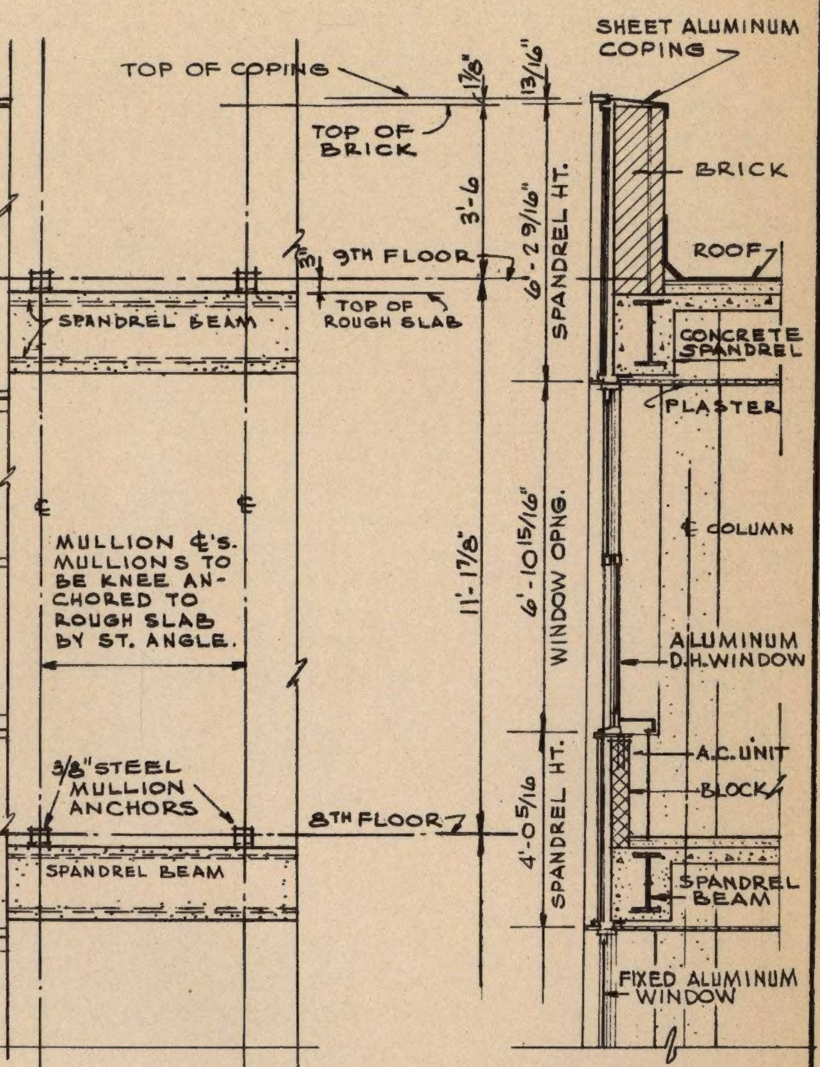

CONCRETE
EXTRUDED ALUMINUM PANEL SILL
SPANDREL HEIGHT
1 1/2"
3/16" x 3/8" "PRESSTITE" SEAL
STEEL ANCHOR STRAPS - 2 PER WINDOW
3/8"
PERMAGUM CAULKING
EXTRUDED ALUMINUM WINDOW HEAD SECTION
PLAS
3"
NOTE: UPPER SASH OF ALL D.H. WINDOWS ON MADISON AVE. ARE FIXED.
EXTRUDED ALUMINUM DOUBLE HUNG WINDOW
6'-10 15/16" WINDOW OPENING
HOLLOW METAL ENCLOSURE
3 11/16"
OAKUM
1/4"
EXTRUDED ALUMINUM WINDOW SILL SECTION
SPANDREL HEIGHT
1 1/2"
ST. STRAPS ANCHORED TO BACK-UP WALL. 2 PER WINDOW 9" FROM EACH SIDE OF MULLION ℄.
CAULKING
EXTRUDED ALUMINUM PANEL HEAD
4" BACK-UP MASONRY

·FULL SIZE DETAIL· ·EXTRUDED ALUMINUM DOUBLE-HUNG WINDOW·

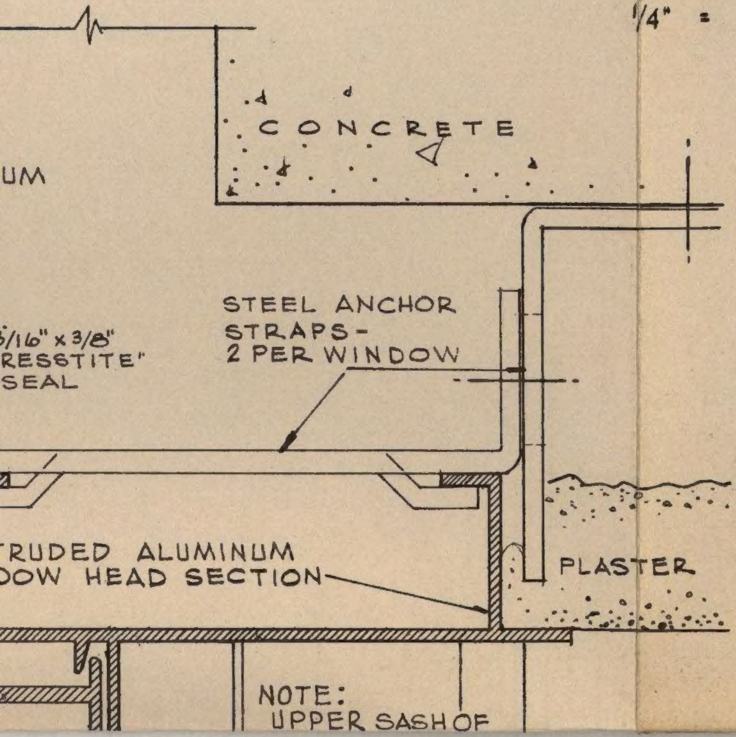
This drawing and suggested outline specifications are submitted for general information only and should not be used except upon the independent advice of competent persons. They do not constitute or contain a warranty of fitness for any particular purpose, of freedom from infringement of any patent or patents, or any other warranty. No responsibility or liability on account of them or for any error in them is assumed by or shall attach or be attributed to Aluminum Company of America or any architect, general contractor, fabricator or other person named herein.


K
UP
SHEET ALUMINUM COPING
4'-4"
4'-4"
℄
℄
℄
D
D
B
B
H
H
FACE BRICK
EXTRUDED ALUMINUM SPANDRELS
EXTRUDED ALUMINUM DOUBLE HUNG WINDOW
EXTRUDED ALUMINUM FIXED WINDOW
C
C
F
F
G
G
E
E
EXTRUDED ALUMINUM MULLIONS

· DETAIL ELEVATION AT (A) ·
1/4" = 1'-0"



· SECTION (B) ·
1/4" = 1'-0"



· HEAT TRANSMISSION ·

WALL MATERIAL	DENSITY LBS. CU. FT.	THICKNESS INCHES	WALL WEIGHT	CONDUCTIVITY OR CONDUCTANCE k, C, a	RESISTIVITY OR RESISTANCE T/k, 1/C, 1/a	HEAT TRANSMISSION COEFFICIENT
INSIDE AIR	—	—	—	1.65	0.60	
A.C. UNIT ENCLOSURE	490	.048	2.00	312.0	—	
AIR SPACE	—	—	—	1.10	0.91	
PARGING	100	.50	4.16	12.00	.04	
CINDER BLOCK	86	4	28.67	1.00	1.00	
AIR SPACE	—	—	—	1.10	0.91	
ALUMINUM	171	.11	1.57	1416.00	—	
OUTSIDE AIR	—	—	—	① 6.00	0.17	
ACCESSORIES	—	—	2.00	—	—	
			38.40 LBS-SQ-FT		3.63	0.27 BTU - HR SQ.FT - °F

① OUTSIDE AIR AGAINST DARK NON-REFLECTIVE ALUMINUM SURFACE.